

## IN THE CLAIMS:

- 1           1.     A system of active neuro-protection for detecting and arresting  
2 injury to an individual comprising:  
3           a sensing means for sensing the occurrence of a predetermined event  
4 within an environment and for operatively transmitting an event indicating  
5 signal;  
6           a controller operatively in communication with said sensing means,  
7 wherein said controller includes a processor for processing said event  
8 indicating signal to determine if a predetermined condition is met for releasing  
9 a neuro-protective agent;  
10          a dispensing means for releasing a neuro-protective drug, wherein said  
11 dispensing means is operatively in communication with said controller, and  
12 releases said neuro-protective drug if said controller transmits a drug releasing  
13 signal to said dispensing means if the predetermined condition is met.
- 1           2.     A system as set forth in claim 1 wherein said controller is  
2 operatively in communication with a remotely located computer monitoring  
3 system for remotely monitoring the individual within the environment by  
4 receiving an event indicating signal from the sensing mechanism and  
5 transmitting a drug releasing signal to the dispensing means to release the  
6 neuro-protective drug if the predetermined condition is met.
- 1           3.     A system as set forth in claim 1 wherein said signal is a radio  
2 frequency signal, and said remotely located computer system, said controller,  
3 said sensing means and said dispensing means each includes a transceiver for  
4 transmitting and receiving the radio frequency signal.
- 1           4.     A system as set forth in claim 1 wherein said dispensing means  
2 releases said neuro-protective drug in an atomized mist that is automatically  
3 inhaled by the individual.

1           5.     A system as set forth in claim 1 wherein said dispensing means  
2 releases said neuro-protective drug by automatically injecting the  
3 neuro-protective drug into the bloodstream of the individual.

1           6.     A system as set forth in claim 5 wherein said dispensing means  
2 is contained within a body mounted dispensing mechanism.

1           7.     A system as set forth in claim 1 wherein said sensing means,  
2 controller and dispensing means are integrally contained within a housing.

1           8.     A system as set forth in claim 1 wherein said predetermined  
2 condition is if a force is exerted on the individual that exceeds a predefined  
3 level that would cause injury to the brain and/or spinal cord of the individual.

1           9.     A system as set forth in claim 1 wherein said predetermined  
2 condition is a presence of a chemical agent within the environment of the  
3 individual that exceeds a predefined level that would cause injury to the brain  
4 and/or spinal cord of the individual.

1           10.    A system as set forth in claim 1 wherein the environment is a  
2 vehicle, and the dispensing mechanism is positioned near the nose of the  
3 individual seated in the vehicle.

1           11.    A system as set forth in claim 1 wherein the environment is a  
2 vehicle, and the sensing means is positioned on a vehicle body component, and  
3 the dispensing means is positioned within a vehicle seat.

1           12.    A system as set forth in claim 1 wherein the environment is a  
2 vehicle, and the sensing means and the dispensing means are integrally  
3 disposed within a vehicle seat.

1           13.    A system as set forth in claim 1 wherein said neuro-protective  
2    drug is from a class of drugs that functionally arrest injury to the central  
3    nervous system of the individual.

1           14.    A system as set forth in claim 1 wherein said sensing means,  
2    said controller and said dispensing means are disposed within a protective  
3    headgear, and said neuro-protective drug is inhaled by the individual.

1           15.    A method of active neuro-protection for detecting and arresting  
2    traumatic injury to the brain and/or spine of an individual, said method  
3    comprising the steps of:  
4           monitoring for a predetermined condition that would induce a traumatic  
5    injury to an individual within an environment using a sensing means;  
6           determining if the predetermined traumatic injury inducing condition is  
7    detected by a controller receiving a signal from the sensing means; and  
8           dispensing a neuro-protective drug from a dispensing means operatively  
9    in communication with the controller if the predetermined traumatic injury  
10   inducing condition is detected.

1           16.    A method as set forth in claim 15 further including the step of  
2    continuing to monitor the environment if the predetermined traumatic injury  
3    inducing condition is not detected.

1           17.    A method as set forth in claim 15 wherein said neuro-protective  
2    drug is from a class of drugs that functionally arrest injury to the central  
3    nervous system of the individual.

1           18.    A method as set forth in claim 15 further including the step of  
2    remotely monitoring the individual within the environment using a remotely  
3    located computer monitoring system for remotely monitoring the individual  
4    within the environment by receiving an event indicating signal from the

5 sensing mechanism and transmitting a drug releasing signal to the dispensing  
6 means to release the neuro-protective drug if the predetermined condition is  
7 met.

1 19. A method as set forth in claim 15 further including the step of  
2 locating the dispensing mechanism near the nose of the individual so that the  
3 individual automatically inhales the released neuro-protective drug.

1 20. A method as set forth in claim 15 further including the step of  
2 locating a body mounted dispensing mechanism on the body of the individual  
3 so that the released neuro-protective drug is automatically injected into the  
4 body of the individual.

1 21. A method of active neuro-protection for detecting and arresting  
2 traumatic injury to the brain and/or spine of an individual, said method  
3 comprising the steps of:

4 locating a body mounted dispensing mechanism on the body of the  
5 individual, wherein the body mounted dispensing mechanism contains a neuro-  
6 protective drug from a class of drugs that functionally arrest injury to the  
7 central nervous system of the individual;

8 monitoring for a predetermined condition that would induce a traumatic  
9 injury to an individual within an environment using a sensing means;

10 determining if the predetermined traumatic injury inducing condition is  
11 detected by a controller receiving a signal from the sensing means;

12 dispensing the neuro-protective drug from the body-mounted  
13 dispensing mechanism, which is operatively in communication with the  
14 controller, if the predetermined traumatic injury inducing condition is detected;  
15 and

16 continuing to monitor the environment if the predetermined traumatic  
17 injury inducing condition is not detected.

- 1           22.    A method as set forth in claim 21 further including the step of
- 2    remotely monitoring the individual within the environment.